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PROGRAMME BUDGET FOR THE BIENNIUM 1992-1993

Integrated management information system project

Status of technological innovations in the United Nations

New technology projects - Progress report on the optical disk project

Ninth report of the Advisory Committee on Administrative and Budgetary Questions

1. The Advisory Committee on Administrative and Budgetary Questions has considered the following reports of the Secretary-General: (a) the integrated management information system (IMIS) project (A/C.5/47/27), (b) the status of technological innovations in the United Nations (A/C.5/47/18), and (c) the optical disk project (A/C.5/47/18/Add.1). The Committee also had before it the report on an independent evaluation of the IMIS project, conducted pursuant to General Assembly resolution 46/185 B.

I. REPORT ON AN INDEPENDENT EVALUATION OF THE INTEGRATED MANAGEMENT SYSTEM (IMIS) FOR THE UNITED NATIONS SECRETARIAT AND FOURTH PROGRESS REPORT OF THE SECRETARY-GENERAL

2. In requesting the independent evaluation of the IMIS, the General Assembly, in its resolution 46/185 B, stated that its purpose was "to assess the approach and methodology adopted in the development and implementation of the project and to determine whether the project can be expected to provide the benefits outlined in the reports of the Secretary-General and to contribute to a more efficient and effective administrative management of the Organization". The study, which was conducted during June and July 1992, was

prepared by Mr. Colin Wooles from the Government of Canada and Mr. Edward B. Bergh from the Ministry for Foreign Affairs of Sweden. The Advisory Committee found the study well prepared and very useful; accordingly, in an effort to assist members of the Fifth Committee, the Executive Summary of the study is annexed to the present report.

3. The Advisory Committee notes that the experts concluded that the chances of a technical success of the IMIS project are very high and that the hardware and software selection and procurement processes have been based on sound management practices. In that connection, the experts state that the IMIS Steering Committee made the appropriate strategic technology decisions, which freed the Organization from being locked into any one or group of hardware/software suppliers. The experts also endorsed the phased release schedule for IMIS, which entails five releases of software to be progressively implemented from December 1992 to December 1993. In the opinion of the experts, such an approach is the only possible course of action; to do otherwise "invites disaster and, even more so, is impossible".

4. The Advisory Committee is gratified by the findings of the experts with regard to the project's technical design and implementation strategy. At the same time it notes the experts' concerns about the Organization's preparation for and understanding of what is required to implement IMIS and what should be happening at the present time. In other words, while concluding that IMIS can be a technical success, the experts have identified shortcomings in the overall project plan "which mitigate against IMIS becoming an organizational success"; as indicated in the Executive Summary, the experts recommend actions which must be taken to ensure the success of IMIS from an organizational point of view.

5. One such action relates to the transfer of knowledge. The Advisory Committee notes the experts' conclusion that "the Organization has not yet fully initiated a rigorous process for technical knowledge transfer from the contractor to United Nations staff who will be responsible for maintenance and operation of the IMIS system in January 1993", and that it is necessary "for more United Nations staff to be involved with the project to learn firsthand the technologies and how they are used in the IMIS environment". In the opinion of the consultants such staff must be identified immediately and provided with the necessary training which is available now and which will become available when the successful hardware supplier is known. Similarly, training for non-technical users is required. The experts also indicated that the responsibility for transition management must be passed to each user organizational section, and that, with regard to release 1, this planning activity must be initiated now.

6. In the opinion of the Advisory Committee, the importance of training and the transfer of knowledge cannot be overemphasized since, if not carried out properly, the investment in designing and implementing the system will be compromised. The Advisory Committee therefore discussed those questions at some length with representatives of the Secretary-General; it also notes that, in his report the Secretary-General, in addressing the main concerns of the

experts, notes that "several activities that were under preparation during the experts' visit have been reviewed in the light of their observations and have since been undertaken by both the Department of Administration and Management and the IMIS team (A/C.5/47/27, para. 20).

7. The Secretary-General elaborates on those activities in rather general terms in paragraphs 21 to 28 of his report. In that connection, the Advisory Committee notes the statement that "the United Nations will need to review and strengthen the organizations that traditionally provide technical and application support" (para. 22). Accordingly, a task force has been established within the Electronic Services Division (ESD) with the participation of technical staff from the IMIS team, which is responsible for planning the operations related to the installation and maintenance of IMIS. The Advisory Committee was informed that the task force reviews the installation and maintenance of the system; it also reviews any problems reported by users to ascertain if it relates to the hardware or to the application.

8. With regard to applications support, a centrally managed applications support organization has been proposed instead of a distribution of such support, as is currently the case with regard to existing systems. As indicated in the Secretary-General's report, the IMIS Steering Committee is considering various options to implement this recommendation (para. 26).

9. The Secretary-General states in his report that "the knowledge transfer activities had just started when the independent experts conducted their study" (para. 28); these include the establishment of a training programme. In response to inquiries, the Committee was informed that training courses for programmers and systems analysts had begun; the Committee was provided with a functional listing of those staff members. With regard to the training of users, representatives of the Secretary-General stated that it had been decided, on the advice of consultants in computer training, to create a training system within the IMIS system through the use of detailed tutorials, which can be updated by the system's support whenever advances/changes are introduced to the system.

10. Representatives of the Secretary-General stressed that the above approach will, in the opinion of the Steering Committee, obviate the need for maintaining a costly training infrastructure once the initial training of users has taken place. In that connection, the Committee was informed that an inventory had been taken of staff expected to use the system along with the list of functions to be performed in order to design the necessary training programme. A training video will also be available, as will the traditional training manual; focal points will also be designated in each office for troubleshooters and to assist other users. While the creation of such a subsystem will initially entail additional costs, representatives of the Secretary-General stressed that it will result in savings in the longer term.

11. The Committee welcomes such planning; at the same time it stresses that care must be taken to ensure that, once trained, a staff member be retained in

a given office to perform the functions for which he/she has been trained; that is, to the extent possible, such staff should not be initially eligible for assignment to peace-keeping operations or other assignments where their training would not be put to good use. Upon inquiry, the Advisory Committee was informed that the training schedule had been synchronized to the release of each software. The Advisory Committee trusts that this schedule will be adhered to, thereby ensuring that the necessary competent staff will be available as needed.

12. The experts also did an assessment of realizable benefits. In that connection they noted that there is no doubt that the qualitative benefits, which have been articulated at length in the progress reports of the Secretary-General, are fully realizable. In his current report, the Secretary-General provides a detailed list of the major qualitative benefits expected from IMIS (A/C.5/47/27, annex II). The Secretary-General also reiterates that, "with the exception of a very few cases, the benefits, while substantial, cannot be quantified in financial terms owing to their nature and to the fact that they cannot be assigned to specific individual functions or to one specific organizational unit" (para. 42).

13. In response to inquiries, representatives of the Secretary-General also emphasized that a quantitative analysis of the benefits would be costly at this stage, and that, as stated by the Secretary-General, until the IMIS system is fully implemented, it is not possible "to forecast precisely the actual workload and time that will be spent by each staff member in performing his or her functions with IMIS" (para. 42). However, after one year of full implementation, a detailed analysis could be performed to identify underutilized resources that could be reassigned (para. 44).

14. The Advisory Committee appreciates the detailed listing of expected benefits. It also notes that the experts have concurred that it is not possible to attach precise monetary values on benefit attainment, as the information required to do this is not available. Notwithstanding that position, the Advisory Committee, while appreciating the difficulties inherent in such a task, remains of the view that some effort could have been made to quantify the benefits which would result from eliminating redundant actions through the introduction of the IMIS.

15. The Secretary-General deals with the financial aspects of the project in his report (A/C.5/47/27, sect. IV, paras. 49-80). "With the definition of the new implementation strategy and further progress of work, it is now possible to reassess the total cost of the project", which is currently estimated at $41,332,900 at current prices or $33,080,000 in constant 1988 dollars (para. 49).

16. As stated in their report, the experts have "a high level of confidence that the results expected for phase I of IMIS are attainable with a funding level which meets the expenditure projections presented in the present report". The experts also note that the projected total phase I expenditures are marginally above the budget of $31,593,500 originally requested by the

Secretary-General; however, they also consider this fact wholly circumstantial, noting that the FAO setback changed the whole technical direction of the project and that the new direction has resulted in lower than expected costs. At the same time, funds for consultant studies, which the experts consider necessary to the development of IMIS, were significantly underbudgeted; a number of other essential project items, such as user training, data-processing services and supplies, and travel were also either omitted from the initial estimates or underbudgeted.

17. The revised estimate of $41,332,900 for phase I represents an increase of $13,332,900 at current prices (or $5,080,000 at 1988 rates) over the estimate of $28 million approved by the General Assembly in its resolution 43/217 of 21 December 1988 as the cost of the first phase of the project. In table 2 of the Secretary-General's report, the total of $41.3 million is compared by main object of expenditure with a corresponding breakdown of the estimate of $28 million. As shown therein, and as mentioned in paragraph 16 above, the net increase relates primarily to underbudgeting under contractual/consultant services; on the other hand, savings were realized in respect of hardware and software. Details of those increases/decreases are contained in the Secretary-General's report (paras. 57-67).

18. As shown in table 2 of his report, requirements for contractual services ($25,925,200) reflect an increase of $12,061,700 (at current prices) over the original estimate (at 1988 prices) of $13,863,500; in constant 1988 prices, the increase is $7,405,900. "Not only were the actual market costs of consulting services higher than anticipated, but it also became apparent in the course of the project that a number of additional studies ... would be necessary" (A/C.5/47/27, para. 60). The Secretary-General also notes that the original estimate included no provision for "out-of-scope work", which is usually included in cost estimates for large projects to allow for changes in organizational policy and user requirements not foreseen during the initial study of the system. Simply stated, out-of-scope work represents additional work which management has identified as necessary in order to implement IMIS in a way that will fully meet its objectives. Because the contracts are fixed-price contracts, there must be compensation for any additional work decided upon by management.

19. According to the Secretary-General, for projects of this size it is common to make provision for up to 20 per cent of the initial contract costs for out-of-scope work. The Committee inquired as to why such a provision had not been included in the original estimates and was informed that the original estimate had been based on the FAO experience.

20. As shown in table 1 of the Secretary-General's report, an estimated $34,051,400 at current prices will have been expended since the inception of the project to the end of 1993. This is a cumulative total relating to expenditures in different years and thus to different rates of inflation/exchange. Requirements for the first six months of 1994 are estimated at $7,281,500 (at current inflation and exchange rates), thus bringing the total to $41,332,900.

21. Based on the approved cost-sharing formula for the project, the regular budget share (65.1 per cent) of the total estimate of $41,332,900 would amount to $26,907,700. As shown in table 3 of the Secretary-General's report, that amount comprises expenditures totalling $22,167,500 for the period 1989-1993 and $4,740,200 in respect of 1994.

22. While the estimated expenditures for the period 1989-1993 total $22,167,500, regular budget appropriations for the same period amount to $19,579,200; there is a shortfall in 1993 of $2,588,300 (para. 70). That being the case, the Secretary-General requests the General Assembly to reconsider its decision on the proposed programme budget for 1992-1993 and to restore $2,588,300 out of the reduction approved in its resolution 46/185 B. Furthermore, because the amount now requested is within the level of resources included in the proposed programme budget, the Secretary-General believes that restoration of the $2,588,300 should not be considered an additional expenditure falling within the scope of the contingency fund.

23. In considering the Secretary-General's request, the Advisory Committee recalled that the Secretary-General, in his report (A/C.5/43/24), proposed that 65.1 per cent of IMIS expenditures be financed from the regular budget, 7.4 per cent from peace-keeping and 27.5 per cent from the special accounts for programme support costs, to which are credited overhead income generated by expenditures relating to technical cooperation and to general trust funds, as well as reimbursement for administrative support provided by the Organization to extrabudgetary entities such as UNDP and UNICEF.

24. As explained by the Secretary-General in the same report, the above formula was based on the distribution of 1986-1987 expenditures between the regular budget, peace-keeping activities (excluding troop payments) and technical cooperation and general trust funds and administrative support provided by the Organization to extrabudgetary entities. Based on that formula, it was estimated that peace-keeping would finance $2.3 million of the total estimate of $31.6 million submitted by the Secretary-General.

25. In its related report (A/43/7/Add.10), the Advisory Committee observed that, in view of the recent and prospective developments that were expected to enlarge the scope and level of peace-keeping activities, the proposed share of the cost of phase I of the IMIS project to be met from peace-keeping activities might be understated. Similarly, the Committee expressed its view that a greater share of financing the project could be met from the special accounts for programme support costs and from other extrabudgetary resources.

26. In response to inquiries, the Committee was informed that, thus far, the total appropriations from peace-keeping for the IMIS project amounted to $3.1 million, and that the amount to be provided from peace-keeping is likely to increase. The Committee was also informed, however, that this increase was likely to be offset by a comparable decrease in the amount foreseen from programme support (extrabudgetary) accounts, thus leaving the regular budget share unchanged. The Advisory Committee requests the Secretary-General to review further the cost-sharing formula and to report thereon to the Assembly at its forty-eighth session.

27. The Committee believes that the implementation of the project should proceed as outlined in the Secretary-General's report. However, because his request has been submitted in the first year of the biennium, but is based on expenditure projections for the entire biennium, the Committee does not believe at this stage that it is necessary to authorize the restoration of the $2.6 million. It recommends, therefore, that the General Assembly should defer action on this request. In the event that the project experiences funding difficulties prior to the forty-eighth session of the Assembly, the Secretary-General should report to the Advisory Committee accordingly.

28. As stated in the Secretary-General's report, "an appropriation for the regular budget share of the remaining costs of the project will be requested in the context of the proposed programme budget for 1994-1995" (A/C.5/47/27, para. 73). In that connection, as noted and as shown in table 3 of his report, the regular budget share of expenditures in 1994 is estimated at $4.7 million. In response to an inquiry, the Committee was informed that the amount of $4.7 million, which relates to the development of the system, does not include the additional requirements for general temporary assistance referred to in paragraph 78 of his report. As stated therein, those requirements relate to the maintenance of existing systems until they are phased out and the additional workload which will be generated until the end of 1995 because of the need to tune the new system, develop new reports and provide additional support to new users of the system. The Committee was informed that, in financial terms, those additional requirements would amount to $747,900 in 1993. At current rates of inflation, the costs for the 1994-1995 biennium are estimated at $808,800; the Committee was informed that the Secretary-General will consider the possibility of meeting those costs through redeployment in the context of the proposed programme budget for 1994-1995.

29. In addition to the above-mentioned general temporary assistance, the Secretary-General states that the hardware and software maintenance costs are estimated at 15 per cent of the estimated purchase costs, or approximately $750,000 a year. Those costs are also not included in the total estimate of $41.3 million for the development of the project, since they will be incurred after implementation. As stated in paragraph 75 of his report, those costs will be partly offset by savings in the costs incurred for the maintenance of hardware for the existing systems; when the existing systems are phased out, it is estimated that the annual savings in maintenance could amount to approximately $611,200.

30. The Advisory Committee notes the Secretary-General's statement that the 15 per cent is a standard formula used for determining maintenance costs, although it is possible that the standardization of the hardware and software may enable the Organization to reduce that percentage to 10 per cent (A/C.5/47/27, para. 74). In the opinion of the Advisory Committee, every effort should be exerted to do so.

31. The combined estimate for hardware and software amounts to $6.2 million. In response to inquiries, the Committee was informed that the maintenance

costs relate to all of the hardware, but only some of the software; thus the figure of $750,000 does not represent 15 per cent of $6.2 million.

32. As discussed in the Secretary-General's report (A/C.5/47/18), access to United Nations databases by Member States has become an issue of importance. In that connection, the Advisory Committee trusts that the IMIS system will also be accessible, it being understood that the necessary measures would be taken to ensure the protection of confidential/private data.

II. STATUS OF TECHNOLOGICAL INNOVATIONS IN THE UNITED NATIONS (A/C.5/47/18)

33. As noted in the Secretary-General's report (A/C.5/47/18, paras. 2 and 3) it covers the most significant projects which have been undertaken since last year. In an attempt to present a comprehensive picture of all new technology projects, it also includes areas of activity not emphasized previously, including information on how computer technology has been used in peace-keeping projects. Because separate reports were requested by the General Assembly on the status of the IMIS and the optical disk projects, those projects are not discussed in detail in the report.

34. As a source of general information, the Advisory Committee found the Secretary-General's report useful and well constructed. However, bearing in mind that many of the projects mentioned therein have been or will be the subject of separate reports and budgetary proposals, the Committee questions whether the continued production of such a report represents the most efficient use of resources. It therefore recommends that no future reports of this type be submitted.

III. PROGRESS REPORT ON THE OPTICAL DISK PROJECT (A/C.5/47/18/Add.1)

35. This report, which has been submitted pursuant to General Assembly resolution 46/185 B, describes the implementation of phase I of the project and the proposed activities for phase II, as well as a projection of requirements for phase III in the 1994-1995 biennium.

36. The Advisory Committee notes from paragraph 2 of the report that the implementation of phase I "has proceeded along the lines described in paragraphs 7 to 11 of the report of the Secretary-General to the General Assembly at its forty-sixth session (A/C.5/46/26)". The Secretary-General proposes that, during the remainder of the biennium 1992-1993, the available resources should be concentrated on upgrading the capacity of the system, increasing the number of documents stored on optical disk and, to the extent possible, increasing the number of users with access to the system at Geneva and New York (para. 11). In that connection, the Secretary-General notes that, as explained in paragraphs 12 and 13 (A/C.5/47/18/Add.1), the allocation

of the total resources approved by the Assembly for phase II ($1,564,500) differs from that proposed in his previous report (A/C.5/46/26, para. 17). The Advisory Committee has no objection to this revised allocation.

37. The Secretary-General projects 1994-1995 requirements at $5.1 million (A/C.5/47/18/Add.1, para. 16). This projection assumes that all will go according to schedule and that there will be an expansion of the capacity of the system in 1994-1995, as described in his earlier report (A/C.5/46/26). The Advisory Committee notes that relevant details will be provided in the proposed programme budget for 1994-1995.

ANNEX

Executive summary

1. The General Assembly, in its resolution 46/185 B of 20 December 1991, requested that an independent expert study be conducted on the project for developing and implementing an integrated management system (IMIS) approved by the Assembly in December 1988 and currently under development. The study was to be submitted to the Advisory Committee on Administrative and Budgetary Questions.

2. Accordingly, in order to undertake the study, the Department of Administration and Management sought the assistance of a Panel of experts, which consisted of Mr. Colin Wooles, from the Government of Canada, and Mr. Edward B. Bergh, from the Ministry for Foreign Affairs of Sweden. Coordination support was provided by the officer-in-charge of the IMIS project. The study was conducted during June and July 1992.

3. The findings, conclusions and key recommendations resulting from the study are summarized below and include the key findings of the review, the levels of funding required for completion of the project implementation around the world and the management actions necessary to ensure that IMIS is an organizational success.

4. In 1988, IMIS was perceived to be a project consisting of three phases. The system which will be delivered and installed at Headquarters by the end of 1993 will perform all of the functions of the planned phase I, plus many of the functions planned for phases II and III. This system is scheduled for implementation at offices away from Headquarters during 1994.

Technical design

5. The chances of a technical success of the project are very high. The hardware and software selection and procurement processes have been based on sound management practices. This has resulted in the development of a modern, up-to-date computer system, which provides Headquarters and offices away from Headquarters with effective operational, administrative and management information systems which deploy the latest technologies.

6. The technical design is one which can be used by other organizations in the United Nations system, and all efforts should be made by the General Assembly to ensure that the IMIS base platform is used by those organizations when replacement or upgrading of their existing systems capabilities is required. The design of the IMIS applications is the result of extensive consultation with users around the world, including other organizations in the United Nations system.

7. The United Nations is well served by the contractor conducting design and implementation of the computer system. The deliverables are on time, are of the required quality, and meet the vendor performance requirements of the contract.

Funding requirements

8. We have conducted several analyses of expenditures and budget projections, including analyses of variance. In order to compare expenditures against the Secretary-General's project spending estimates of 1988 and the authorized budget, we have converted current year dollars to 1988 dollars in our analyses.

9. The projected total of phase I expenditures are marginally above the requested budget of 1988. However, as the General Assembly reduced the requested amount by $3.5 million in 1988 and more recently by a further $4 million in 1991 dollars, the project is significantly over the approved budget level at the present time. At the end of 1992, it is anticipated that $17.6 million in 1988 constant dollars will have been invested in the project. A further $16 million in 1988 constant dollars (approximately $20.6 million in 1993 dollars) must be invested to install phase I and some aspects of phases II and III at Headquarters and at all offices away from Headquarters.

10. Of the funds required after 1992 to complete the development and installation of phase I, approximately $12.1 million is required in 1993 to install the New York operational database and the corporate database capability. Approximately $8.5 million will be required in 1993 and 1994 to install IMIS at the offices away from Headquarters during 1994.

Implementation schedule

11. The IMIS Steering Committee has adopted a phased release schedule for IMIS which entails five releases of software to be progressively implemented from December 1992 to December 1993. It is a realistic approach to schedule a phased implementation during 1993. We concur that such a phased implementation is the only possible course of action the United Nations can take. To try to implement all components of a complex integrated system such as IMIS at a single point of time is to invite disaster and, even more so, is impossible.

Benefits of IMIS

12. The qualitative benefits anticipated from IMIS have been articulated at length in the progress reports of the Secretary-General and we are of the view that those benefits are fully realizable. We also concur that it is not possible to attach precise monetary values on benefit attainment as the information required to do this is not available.

13. We conclude that, above all, IMIS is a strategic positioning instrument for the United Nations Secretariat which is aligned with the reform process. During our review, we have noted examples of policy, strategy, approach and organizational direction which is in line with the directions which many Governments are actively pursuing in enhancing services through the innovative use of information and technology. We suggest that the assessment of the benefits generated by IMIS should be made in that context.

14. IMIS is a business imperative in the environment of the United Nations, where business levels are at an all time high around the world and where the current information systems are often antiquated and systems are lacking in the capabilities required to support responsively operations and to provide the best levels of information to management. In essence, IMIS will assist in positioning the United Nations to meet its future responsibilities. It is a tool for both Headquarters and overseas duty stations which has the potential to be used by many more organizations in the United Nations system.

Organizational readiness: actions required

15. Major changes are occurring in the ownership and management of United Nations data and systems which are precipitated by the design philosophy and concepts of IMIS. Such changes and their possible organizational impacts and ramifications do not appear, to the Panel, to be realized or understood. Those changes must be managed.

Transition management

16. Transition management involves user training, conversion of automated and manual files to the IMIS database and possibly temporary bridging to other application systems. The IMIS project team has developed, in detail, strategies for implementation for each release. The responsibility for transition management must be passed to each user organizational section. The head of each unit must be empowered to work with the project team to develop a transition plan for that unit which sets forth in detail the activities to be performed, a timetable, and the resources required and assigned to effect a successful transition to IMIS for the organizational unit. This planning activity must be initiated now for Release 1.

Acceptance testing

17. Unit heads must by necessity be involved in the acceptance testing of the IMIS system and the file conversion and bridging programmes. That level of involvement in testing, with the concentrated participation of the staff who will be using IMIS, is the only way that senior officials can attain a reasonable assurance that IMIS, as delivered, is processing according to specifications. The unit heads must be held accountable for independently testing the functionality for which they are responsible and for advising senior officials on the extent and results of the testing. In order to do this, unit heads must be empowered to work with the project team and the contractor to negotiate and/or devise adequate testing plans for their areas of responsibility.

18. Within the IMIS project team it is necessary to set up an acceptance testing unit, which could be aligned with the quality assurance function. A test database must be constructed which can be used for progressively testing new releases and, in the future, for testing enhancements to IMIS.

Information services organization

19. With the move towards integrated data systems and consistent technologies on a global basis, there is a need for a retrenchment of control of information resource management to a central coordinating unit. In strategic information planning parlance, this has, in many circles, been known as the Chief Information Officer concept. The United Nations should consider this type of organization, in conjunction with the Electronic Services Division, to house the future manangement of IMIS.

Knowledge transfer

20. Staff members who will be involved n all computer operations and software library and maintenance aspects of IMIS must be identified immediately, and provided with the necessary training which is available now and that which will become available when the successful hardware supplier is known. To assure effective knowledge transfer from the contractor specialists to the identified operations and programming personnel, arrangements should be made for those persons to work with the project team, specifically with the contractor staff, until the system is handed over to the United Nations for production.

21. Similarly, key members of user units, who will in the future be authorized to access the IMIS database and download data or generate their own reports, may also find it beneficial to take the opportunity of engaging in knowlege transfer from the contractor specialists.

Backup and recovery

22. The contractor will be producing recommendations for backup and disaster recovery and other contingency plans as one of the deliverables under the Computer System Design contract. Those plans must also be subjected to acceptance testing. Contingency procedures should be tested regularly in the production environment. Contingency and recovery plans and procedures must be agreed to by the user community, which must also be involved in their testing.

Policy decisions

23. Computer coding is about to commence and this activity has a finite schedule. Where subject-matter policy decisions are required on how the computer programmes are to compute and/or process, they should be made expeditiously such that the IMIS programming schedule is not jeopardized.